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动物分类学报

NEW SPECIES AND NEW RECORDS OF TACHINIDAE FROM LIAONING LAOTUDINGZI NATIONAL NATURE RESERVE OF CHINA (INSECTA, DIPTERA)

ZHANG Chun-Tian, ZHAO Zhe, WANG Qiang
Liaoning Key Laboratory of Evolution and Biodiversity, Shenyang Normal University, Shenyang 110034, *China*; *E-mail*: *chuntianzhang@yahoo.cn*

Abstract In the course of studying tachinid flies (Diptera, Tachinidae) from Liaoning Laotudingzi National Nature Reserve of China, over 1 500 specimens were examined, of which 3 species are described as new to science: *Mycteromyiella zhui* sp. nov., *Nemoraea angustifrons* sp. nov., *Phasia huanrenensis* sp. nov.; 8 species are recognized as new records in China, viz. *Mycteromyiella* Mesnil, 1966, *Eliozeta* Rondani, 1856 and *Dicarca* Richter, 1993; *Phebellia triseta* (Pandellé), *P. villica* (Zetterstedt), *Phryno katoi* Mesnil, *Cylindromyia* (*Malayocyptera*) *agnieszkae* Kolomiets, *Eliozeta pellucens* (Fallén), *Linnaemya* (*Ophina*) *takanoi* Mesnil, *Panzeria laevigata* (Meigen) and *Dicarca fluviatilis* Richter.
Key words Diptera, Tachinidae, new species, new records, China.

1 Introduction

In the course of systematic study of the Tachinidae (Insecta, Diptera) from Liaoning Laotudingzi National Nature Reserve of China, over 1 500 specimens of the tachinid flies were collected and examined, of which 3 species are found and described as new to science, and 8 species are recognized as new records in China. The types and other material examined are deposited in the Insect Collection of Shenyang Normal University, China (SNU).

2 Material and Methods

All the specimens were collected in Liaoning Laotudingzi National Nature Reserve of China, which located in the south part of Northeast China (41°11′ - 41°21′N, 124°41′ - 125°5′E), and classified and diagnosed by their morphology characters especially male terminalia structure. The diagnoses of tachinid genera and species were in accordance with Mesnil (1944 - 1975), Crosskey (1976), Shima (1976, 1982a, 1982b), Tschorsnig & Herting (1994), Ziegler & Shima (1996), Tschorsnig & Richter (1998), Chao *et al.* (1998), Sun & Marshall (1995, 2003), Chao & Chen (2007), O'Hara, Shima & Zhang (2009), Yao & Zhang (2009). We follow Sinclair (2000) with the terminology of the male terminalia, while we follow McAlpine (1981) with other structures. Dissected male terminalia were preserved in glycerine in small plastic tubes pinned together with the specimens. Drawings were done using an Olympus SZ series stereoscopic microscope equipped with an ocular micrometer.

Abbreviations for thoracic and leg setae and their position are used in descriptions as follows. *ac*, acrostichal setae; *dc*, dorsocentral setae; *ia*, intra-alar setae; *sa*, supra-alar setae; *a*, anterior seta; *ad*, anterodorsal seta; *av*, anteroventral seta; *d*, dorsal seta; *p*, posterior seta; *pd*, posterodorsal seta; *pv*, posteroventral seta; *v*, ventral seta.

3 Taxonomy

***Mycteromyiella zhui* Zhang *et* Zhao, sp. nov.** (Figs 1 - 7)

A medium-sized species. Body length 7.5 - 8.5 mm.

Male. Head. Eye densely haired; frontal vitta dark brown; fronto-orbital plate and parafacial with greyish white pruinosity; lunule black; antenna black; palpus reddish yellow and brown at base, prementum brightly black. Vertex at narrowest point 0.13 - 0.16 of head width; fronto-orbital plate with sparse short hairs on outerside, at narrowest point about 1/2 as wide as frontal vitta; parafacial bare and subequal to 1st flagellomere in width in lateral view; gena with densely short black setula on its upper 1/3 and densely pale long yellow hairs on its lower 2/3, about 1/4 times as wide as eye height; lower margin of face well forward. Occiput slightly bulged on its lower 1/2, with a row of black hairs below postocular setae and rather dense yellowish hairs. 12 - 15 inclinate frontal setae, lowest seta nearly at level with pedicel; 1 reclinate orbital seta; a pair of ocellar setae between anterior and posterior ocelli, subequal to upper frontal setae in length; postocellar setae very strong, about 0.33

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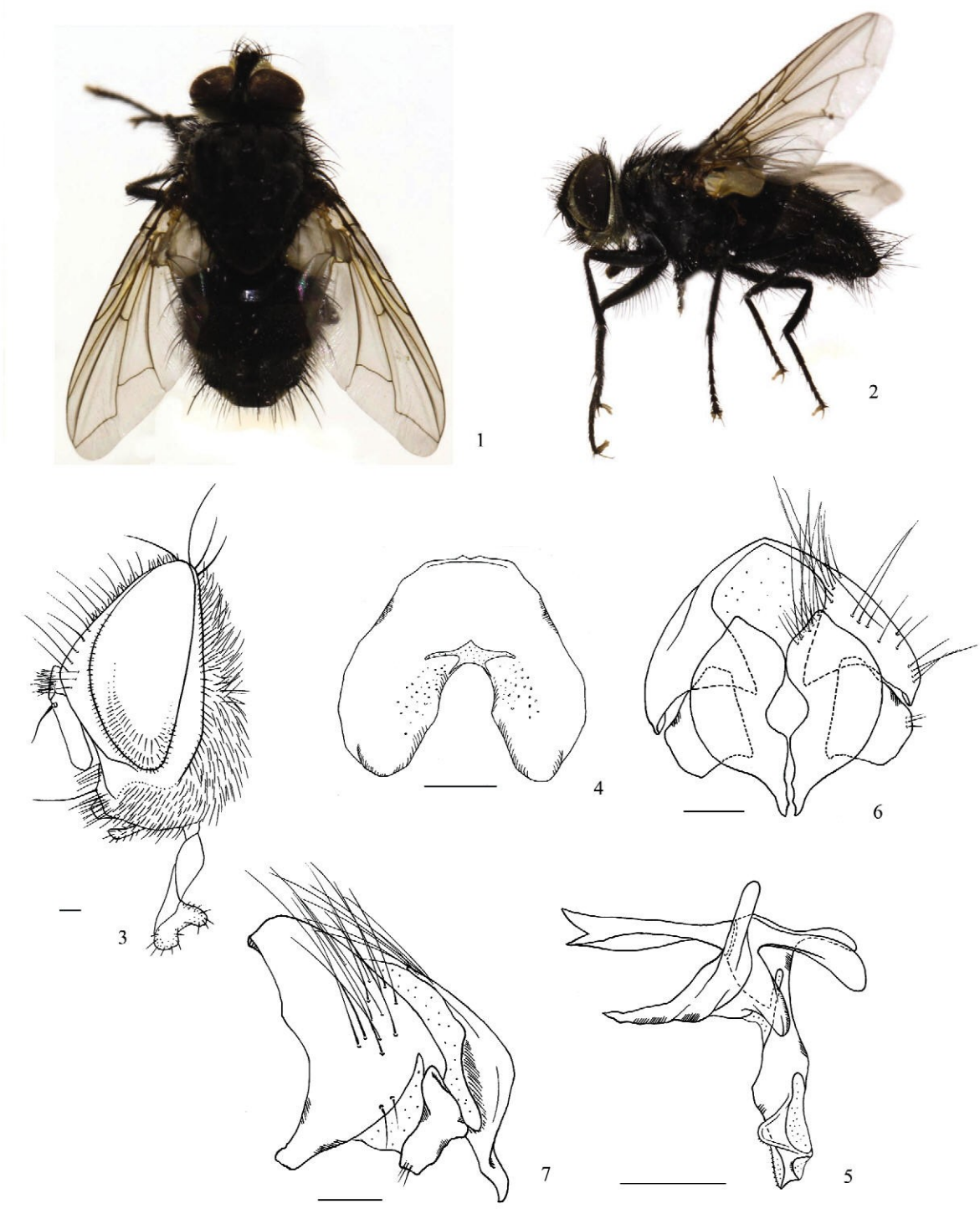


Figs 1 – 7. Male of *Mycteromyiella zhui* Zhang *et* Zhao, sp. nov. 1 – 2. Male in dorsal and lateral view. 3. Head in lateral view. 4. Sternum 5. 5. Aedagal apodeme, hypandrium, phallus, pregonite and postgonite in lateral view. 6 – 7. Cerci, surstylus, epandrium in posterior and lateral view. Scale bars = 0.2 mm.

of eye height, upper ones relatively fine and apices curved forward; inner vertical setae strong, about 0.5 of eye height; vibrissa arising inserted above level of lower margin of face by about 0.8 pedicel length; facial ridge with setae on lower 1/4. 1st flagellomere almost twice as long as pedicel; pedicel with some black hairs, the longest hair subequal to pedicel in length; arista fine and bare, longer than antenna, slightly thickened on basal 2/5, 2nd aristomere about 1.5 times as long as wide; palpus longer than 1st flagellomere with black hairs; prementum about 4 times as long as wide; labellum inflated.

Thorax. Black in ground colour with grey pruinosity; notopleuron with grey pruinosity; dorsum covered with pale yellow grey pruinosity, with 4 longitudinal vittae on scutum, outer one twice as wide

as inner one and about 0.3 as wide as pruinose portion between vittae; scutellum reddish brown except dark base; anterior and posterior spiracles dark brown. Thoracic dorsum densely with many fine black hairs; 3 + 3 *ac*; 3 + 4 *dc*; 3 *ia*, presutural ia absent; 2 strong *sa*; pre-alar setae shorter than notopleural setae and slightly shorter than 1st postsutural *ia*. 4 postpronotal setae, 3 strong basal setae and middle one set forward. Prosternum 1.5 times as long as wide and hairy; proepisternum bare; 1 – 2 anepimeral setae and the longer one extending to the margin of upper calypter; 3 katepisternal setae. Scutellum with 3 pairs of marginal setae, apical scutellar setae crossing horizontally and about 1.4 times as long as scutellum, subapical scutellar setae strong and rather longer than apical scutellar setae, a row of fine long hairs upper on lateral scutellar setae and some erect black hairs on scutellar dorsum. Katepimeron entirely hairy. Wing. Pale brownish and hyaline; upper calypter pale yellowish, lower calypter brownish yellow; halter brownish. Costal spine short, nearly 0.5 of r-m crossvien length; 2nd costal sector bare ventrally; lengths of 2nd, 3rd and 4th costal sectors nearly as 1∶2∶1; 6th costal sector shorter than 4th. Cell r_{4+5} opened at apex; radial node with 2 black setulae dorsally and ventrally; the length of vein M from r-m to dm-cu crossvein distinctly longer than the distance from dm-cu crossvein to its bend and the length of vein M from dm-cu crossvein to its bend obviously longer than the distance between the bend and wing margin extending along vein M. Legs. Black; claws dark brown and pulvilli pale yellow. Claws slightly shorter than length of 4th and 5th tarsomere combined. Fore tibia with 2 *p*; mid tibia with 2 *ad*, 2 *pd*, and 2 *v* (upper one short); hind tibia with a complete row of *ad* (middle one stronger), 2 – 3 *pd*, and 2 – 3 *v* (upper two short), apex with 1 *av* and 2 *d*, *pv* absent.

Abdomen. Black in ground color, with a longitudinal black median vitta on terga, broadly reddish on sides of terga 3 and 4 and anterolateral portions and venter of tergum 4 and covered with gryish white pruinosity. Syntergum 1 + 2 medially excavate to hind margin, with 2 median marginal and 1 – 2 lateral marginal setae; tergum 3 with 2 median marginal and 3 – 4 lateral marginal setae; discal seta absent or irregular; tergum 4 with a row of marginal setae, discal seta irregular or absent; tergum 5 truncated at apex, separately with a row of marginal and discal setae. Sternum 1 with black hairs. sternum 5 long and wide, apical portion wide and bluntly rounded in ventral view, the '∩' concave deeping to 3/5 length of sternum 5. Male terminalia. Cerci nearly round, only narrowed and pointed apically; surstylus short, and its distal portion blunt and wide in posterior view. Phallus. distal portion of pregonite and postgonite bluntly rounded; epiphallus finger-like; distiphallus sclerotized obviously.

Female. Unknown.

Holotype male, China, Liaotudingzi Moutains (41.3°N, 124.8°E), Huanren, Liaoning, 24 – 25 June 2009, ZHANG Chun-Tian. Paratypes: 15 ♂♂, same locality and date as holotype, ZHANG Chun-Tian & ZHAO Zhe.

Etymology. Specific name is dedicated to Mr. ZHU Ye-Ping, who has been a section chief of Laotudingzi National Nature Reserve for his contributions to the Biodiversity Protection of Liaoning Province for years.

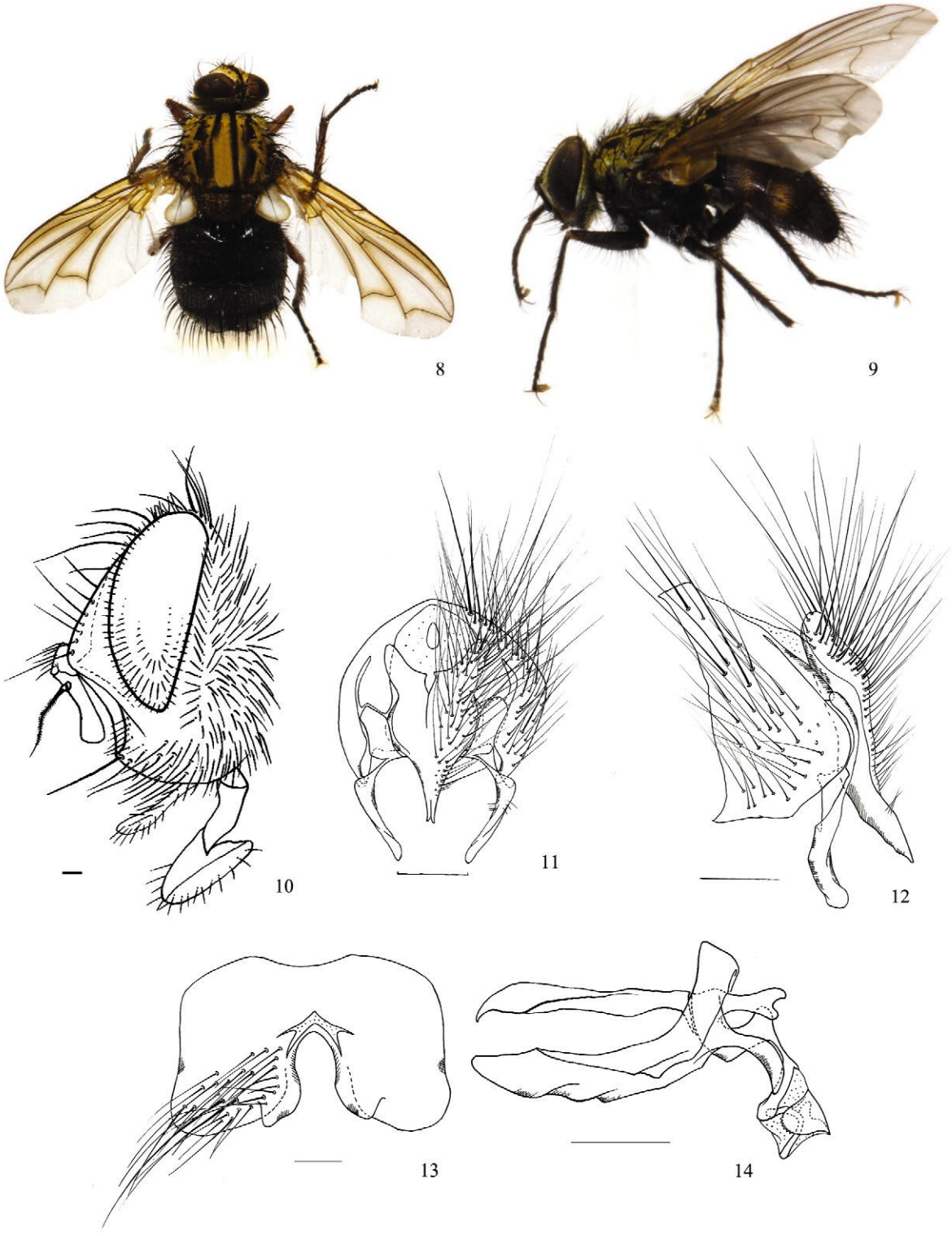
Remarks. This species is similar to *M. marginalis* Shima distributed in Kyshu, Japan (Shima, 1976: 312), but is distinguished from the latter in having the narrower vertex, longer cerci narrowed and pointed apically, surstylus distal portion blunt and distinctly wider in posterior view.

***Nemoraea angustifrons* Zhang *et* Zhao, sp. nov.**

(Figs 8 – 14)

A medium-sized species. Body length 7.5 – 10.0 mm.

Male. Head. Eye densely with long yellow hairs. Frontal vitta dark brown; fronto-orbital plate, parafacial and reddish brown gena with thin greyish white pruinosity; lunule black; occiput with pale yellow pruinosity. Antenna black, palpus reddish yellow, prementum brightly black, labellum reddish yellow. Vertex at narrowest point about 0.07 of head width, subequal as wide as 1st flagellomere; fronto-orbital plate bare on outer portion and with some hairs near frontal setae; parafacial bare, parallel on its inner and outer margins, subequal or narrower than 1st flagellomere width in profile; genal height 0.25 – 0.30 of eye height; lower margin of face slightly protruding; occiput slightly bulged on lower 1/2 and densely with yellowish long hairs. 9 – 10 inclinate and crossed frontal setae, lowest seta nearly level with upper margin of pedicel; a pair of ocellar setae distinct fine long and proclinate, the longest one subequal as long as upper frontal seta; inner vertical setae fine, long and crossed, nearly 0.4 of eye height; vibrissa at level to lower margin of face strong and crossed; facial ridge with setae on lower 1/3; 2 – 3 rows of black hairs below postocular setae. 1st flagellomere nearly 4 times as long as wide and almost 3 times as long as pedicel; pedicel with 1 strong seta (slightly shorter than 1st flagellomere) and some black hairs (subequal in length to pedicel). Aristomere slightly longer than antennal length and thickened on basal 1/4, short ciliated, 1st or 2nd aristomere subequal in length to its width. Palpus with long black hairs, which subequal in length to 1st flagellomere; prementum about 2.5



Figs 8 – 14. Male of *Nemoraea angustifrons* Zhang *et* Zhao, sp. nov. 8 – 9. Male in dorsal and lateral view. 10. Head in lateral view. 11 – 12. Cerci, surstylus, epandrium in posterior view and lateral view. 13. Sternum 5. 14. Aedagal apodeme, hypandrium, phallus, pregonite and postgonite in lateral view. Scale bars = 0.2 mm.

times as long as wide; labellum slightly inflated.

Thorax. Black in ground colour; thoracic dorsum with golden pruinosity and 4 longitudinal black vittae, outer one about as wide as inner and about 1.3 times as wide as the distance of between pruinose portion of inner and outer vittae; scutellum only black on base, reddish yellow on apical 3/4, with golden pruinosity; postpronotal lobe black with golden pruinosity; postalar callus brown; pleura with grey pruinosity. Anterior spiracle pale brown and posterior spiracle dark brown. 3 + 3 *ac*; 3 + 3 *dc*; 3 *ia*; 3 *sa*, 1st and 3rd ones strong, pre-alar seta shorter than notopleural

seta; anterior *ia* sligthly shorter than 2nd *sa*; 4 – 5 postpronotal setae, 3 basal setae standing in a line. Prosternum about 3 times as long as wide, with 2 – 3 black hairs on both sides of hind 1/2; proepisternum bare; anepisternum with strong setae and some long black hairs posteriorly; 1 strong anepimeral setae; anatergite bare; 3 katepisternal setae and several black hairs on anterior 1/3 of katepimeron; scutellum with 4 pairs of marginal setae, which longer than scutellum; apical scutellar setae absent, 2 pairs of lateral scutellar setae, the longer one subequal in length to subapical scutellar seta; 1 pair of discal scutellar setae and some dense erect black hairs on scutellar dorsum. Wing. Yellowish and hyaline; tegula reddish brown on base, and its apical half and basicosta black. Calypter yellowish, lower one broad not divergent from scutellum on its inner margin and some black setulae on outer margin and nearby. Halter reddish yellow. Costal spine very short; costal setulae extending to the middle of 4th costal sector. Length of 2nd, 3rd and 4th costal sectors nearly as 1.0∶2.0∶0.5; 2nd costal sector with black setulae ventrally; radial node with 3 – 6 setulae dorsally and ventrally. Cell r_{4+5} opened at apex. Vein M from r-m to dm-cu crossvein nearly 2.5 times as long as the distance from dm-cu crossvein to its bend and the length of vein M from dm-cu crossvein to its bend longer than the distance between the bend and wing margin extending along vein M. Vein M at bent almost right-angled with an appendage which about 0.5 length of r-m crossvein. Legs. Black, only yellow on ventral portion apically; claws dark brown and pulvilli pale yellow. Claws and pulvilli longer than tarsomere 5. Fore tibia with a row of short *ad* and 3 *p*, apical *ad* obviously shorter than apical *d*; mid tibia with 3 – 4 *ad*, 2 – 3 *pd* and 1 *v*; hind tibia with 3 – 6 *ad*, 3 – 4 *pd* and 2 *v*, apex with 2 *d*, 1 longer *av* and 1 short *pd*.

Abdomen. Black in ground color with a weak longitudinal black vitta and greyish white pruinosity on terga and lateral portion of tergum 5, and reddish yellow on sides of syntergum 1 + 2, anterior portion of terga 3 and 4. Syntergum 1 + 2 medialy excavate to its hind margin with 1 lateral marginal seta, and median marginal setae absent; tergum 3 with 4 median marginal, 2 lateral marginal and 0 – 2 lateral discal or 3 – 4 pairs of irregular discal setae; tergum 4 with a row of marginal and 2 lateral discal and 5 – 6 median discal setae; tergum 5 truncated at apex, with a row of marginal and many irregular discal setae; sternum 5 wide and short, outer process of its apex bluntly rounded, a concave between inner and outer processes. Male terminalia. Cerci basal portion finger-like bulged and V-shaped, mid portion widened and round, narrowed at apex, apical 1/2 of surstylus slender in posterior view. Cerci suberect, inclinate on apical 1/2, apex pointed and curved inwards; surstylus slender and rounded apically; pregonite branched at apex; postgonite rather long and pointed apically; epiphallus bluntly rounded at apex; distiphallus slightly short, sclerotized obviously, following as Fig. 11.

Female. Pedicel reddish brown to dark brown; palpus flattened and bulged apically. Vertex nearly 0.2 of head width and narrowed posteriorly and widened anteriorly; frontal vitta 0.5 – 0.6 times as wide as fronto-orbital plate; 6 – 7 pairs of inclinate frontal setae; 2 pairs of strong and proclinate outer fronto-orbital setae; ocellar setae fine, long and hair-like, subequal or slightly shorter than upper frontal setae; inner vertical seta strong and crossed, nearly 0.6 of eye height; outer vertical seta indistinct, short and 0.3 – 0.4 times as long as inner vertical seta; Scutellum with 8 – 10 discal setae on dorsum. Wing tinged brownish yellow along veins; radial node and around with 3 – 7 black setulae dorsally and ventrally. Legs reddish yellow, only tarsi black; claws and pulvilli both slightly shorter than tarsomere 5; mid tibia with 4 *ad* and 3 – 4 *pd*; hind tibia with a row of irregular *ad* (3-4 strong), 4 – 5 *pd*. Abdominal terga 3 and 4 each with 2 – 4 pairs of irregular median discal setae; tergum 5 with 2 pairs of median discal and some lateral discal setae. Other characters same as in male.

Holotype male, China, Liaotudingzi Moutains, Huanren, Liaoning, 11 July 2006, YANG Zheng-Qing. Paratypes: same locality as holotype, 1 ♂, 1 June 2006, FENG Li-Yong. 2 ♀ ♀, 25 June 2009, ZHAO Zhe, WANG Qiang.

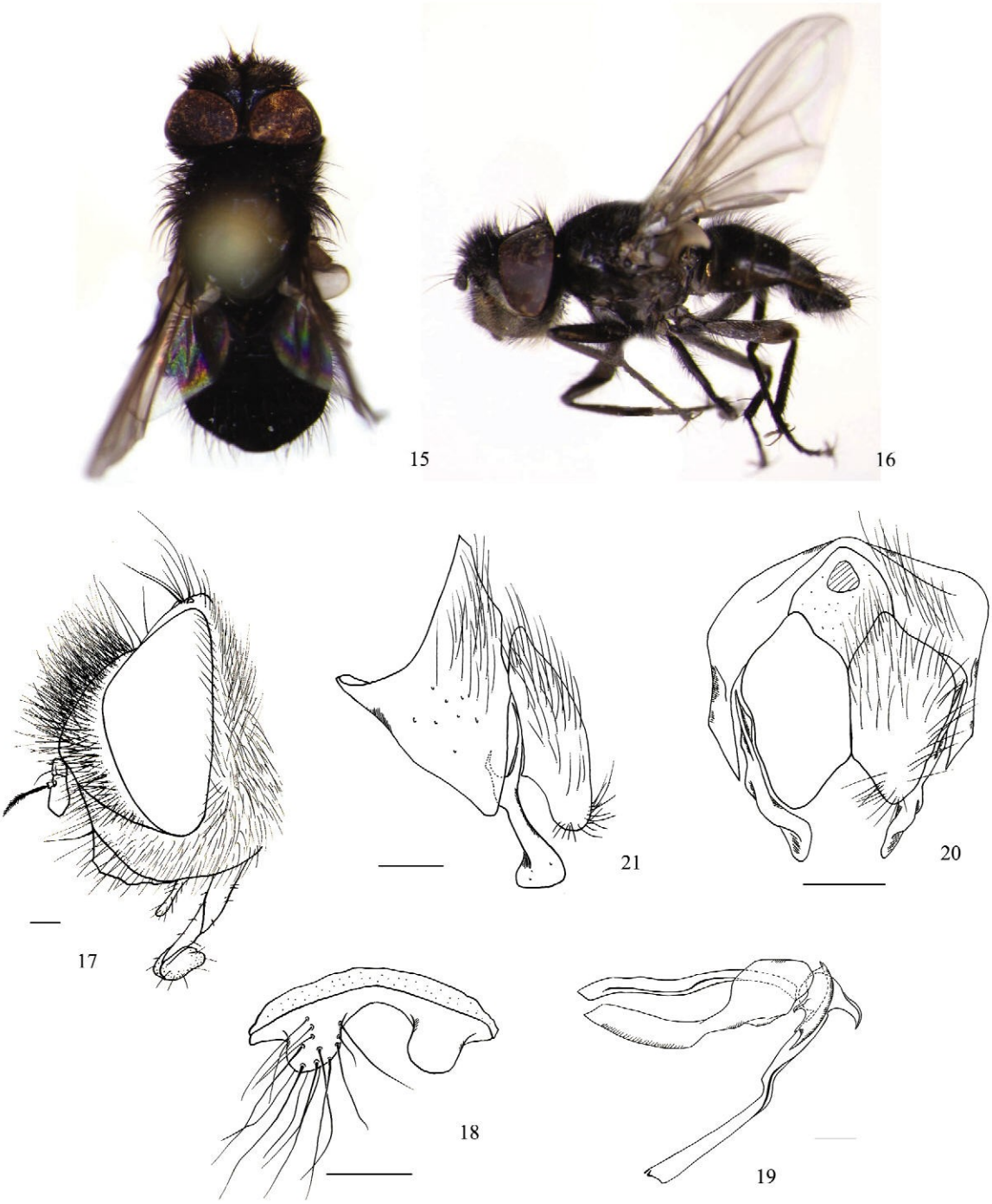
Etymology. Specific epithet is taken from a diagnostic character of this species, narrow vertex.

Remarks. This new species is closely similar to *N. takanoi* (Baranov) (Mesnil, 1971: 994), but is distinguished from the latter by its smaller body, ocellar setae longer and distinct, tergum 3 with 4 median marginal setae and 2 – 4 pairs of irregular discal setae in both sexes, and females have reddish yellow legs.

***Phasia huanrenensis* Zhang *et* Zhao, sp. nov.** (Figs 15 – 21)

A small species. Body length 4.5 – 6.5 mm.

Male. Head. Eyes bare, dorsal facets larger than ventral facets; anterior ocellus larger than posterior one. Frontal vitta and lunule dark brown; fronto-orbital plate, parafacial and gena black with greyish white pruinosity; antenna black; palpus reddish yellow except dark apex and base; prementum gleamy black. Vertex at narrowest point subequal or slightly narrower than the distance between outer margins of two posterior ocelli; anterior portion of fronto-orbital plate and parafacial strongly swollen on, densely with slender



Figs 15 – 21. Male of *Phasia huanrenensis* Zhang *et* Zhao, sp. nov. 15 – 16. Male in dorsal and lateral view. 17. Head in lateral view. 18. Sternum 5. 19. Aedagal apodeme, hypandrium, phallus, pregonite and postgonite in lateral view. 20 – 21. Cerci, surstylus, epandrium in posterior and lateral view. Scale bars = 0.2 mm.

black hairs; parafacial nearly 3 – 4 times as wide as 1st flagellomere in profile; genal groove distinct; gena height nearly 0.25 – 0.30 of eye height, with black hairs; lower margin of face protruding forward. Occiput flattened with dense black hairs on upper 1/2 and slightly bulged with dense yellow hairs on lower 1/2; ocellar setae fine, long, hair-like; postocellar setae, inner and outer vertical setae hair-like; vibrissa fine and weak, inserted above lower margin of face and the distance between vibrissae subequal in length to antenna; facial ridge with setae on lower half. Antenna short, situated at nearly 2/5 level of facial height and subequal in width to the distance between its bases; 1st flagellomere 1.8 – 2.0 times as long as wide and almost twice as long as pedicel; pedicel with 1 seta which as long as 1st flagellomere. Arista longer than antenna and thickened on basal 1/3 – 1/4, 1st or 2nd aristomere about as long as wide. Palpus shorter

than prementum; the latter 3 – 4 times as long as wide; labellum rather small.

Thorax. Black in ground colour with very thin grey pruinosity and fine black hairs; scutellum black with thin grey pruinosity on apex; anterior and posterior spiracles dark brown. 1 postsutural *ac*; 1 + 1 *dc*; 1 postsutural *ia*; 1 strong *sa*; 2 notopleural setae; 3 postpronotal setae; 2 postalar setae. Prosternum bare, about twice as long as wide; anepisternum with a row of long yellow hairs on posterior margin; anepimeral setae black, fine, hair-like; proepisternum bare; 1 slender anepimeral setae obviously; 1 – 2 katepisternal setae; pleura grey pruinose, densely with long black hairs. Scutellum with 2 pairs of marginal setae, apical scutellar setae crossed horizontally; katepimeron with 2 or 3 fine short hairs on anterior portion. Wing. Pale brown and hyaline; tegula and basicosta black; costal spine longer than r-m crossvien. Upper calypter pale yellow on basal portion and brown on other portion; lower calypter pale yellow, not divergent from scutellum on its inner margin; halter orange. Second costal sector bare ventrally; length of 2nd, 3rd and 4th costal sectors nearly as 2.25∶1.00∶2.25; vein M and vein R_{4+5} merged at about 70° angle, petiole shorter than the distance from node to the curved. Legs. Black, slender; claws black and pulvilli pale yellow. Fore claws and pulvillus longer than tarsomere 5. Fore tibia with 3 – 4 *p* and 1 short *ad*, apex with 2 *d* and 1 *pv*; mid tibia with 1 *ad*, 3 *pd* and 1 *v*, apex with 2 *d*, 1 *av*, 1 *pv* and 1 *p*; hind tibia with 4 – 5 *ad* and 4 *pd*, *v* absent, apex with 1 *ad*, 1 *d*, 1 *av* and 1 *pv*.

Abdomen. Black in ground color, black on posterior margin of syntergum 1 + 2 and middorsal longitudinal portion of terga, and grey pruinosity on basal portion of syntergum 1 + 2, anterior margin of tergum 3, anterior 1/3 to 2/3 of tergum 4 and whole tergum 5; terga with erect long hairs. Syntergum 1 + 2 medially excavate to its 1/2, with 2 median marginal, 2 lateral marginal setae; tergum 3 with 2 median marginal, 2 lateral marginal setae; tergum 4 with a row of marginal setae; tergum 5 with a row of marginal and some irregular discal setae; sternum 5 wide and short in ventral view. Male terminalia. Cerci wide, bluntly round at apex; surstylus slender and its apex bulged, flattened and curved inwardly in posterior view; pregonite and postgonite both narrow and acuate; distiphallus slender, membranous on apical 1/2 in lateral view.

Female. Body smaller than male. Vertex at narrowest point subequal in width to the distance between outer margins of two posterior ocelli; frontal vitta orange on anterior 1/2; inner vertical setae and outer vertical setae hair-like and indistinct; claws and pulvilli slightly shorter than tarsomere 5; sternum 7 longer than sternum 6, apex narrowed and curved backward; ovipositor curved upwards. Other characters same as in male.

Holotype male, China, Liaotudingzi Moutains (41.3°N, 124.8°E), Huanren, Liaoning, 30 May 2006, FENG Li-Yong. Paratypes: same locality as holotype, 4 ♂♂, 9 June 1994, WEI De. 37 ♂♂, 5♀♀, 30 May-1 June 2006, ZHANG Chun-Tian, LIU Jia-Yu leg. 6 ♂♂, 1♀, 1 June 2009, ZHANG Chun-Tian, FU Chao leg.

Etymology. Specific epithet is taken from the name of the type locality, Huanren, Liaoning, China.

Remarks. This new species is similar to *P. rohdendorfi* (Draber-Mońko) which belongs to *P. barbifrons-group* (Sun & Marshall, 2003: 54), but is distinguished from the latter in having the narrower genal height, 1st flagellomere longer, facial ridge with setae only on lower half, palpus reddish yellow except dark brown apex and base, fore tibia without anterior seta, hind tibia with 4-5 anterodorsal setae, surstylus expanded apically in lateral view.

Mycteromyiella Mesnil, 1966 New record to China

Mycteromyiella Mesnil, 1966: 232. Type-species: *Mycteromyia laetifica* Mesnil, 1950: 107. Crosskey, 1976: 121 (key), 225 (catalogue); Herting, 1984: 36 (catalogue); Herting & Dely-Draskovits, 1993: 177 (catalogue); Tschorsnig & Richter, 1998: 800 (key); Richter, 2004: 227 (key).

Generic diagnosis. Parafacial bare; postpronotum with 4 setae, middle basal seta slightly displaced anteriorly; scutellum at least red on apical half; abdomen with transverse bands of pruinosity, without metallic blue luster.

Distribution. China (Liaoning); Japan (Kyushu), Malaysia (Salawak, Malay Peninsula), Solomon Islands, New Guinea.

Phebellia triseta (Pandellé, 1896) New record to China

Exorista triseta Pandellé, 1896: 26.

Exorista stulta Strobl, 1894: 23.

Phebellia triseta: Mesnil, 1956: 473 (redescription); Herting, 1984: 42 (catalogue); Herting & Dely-Draskovits, 1993: 186 (catalogue); Tschorsnig & Herting, 1994: 51 (key).

Diagnosis. This species is distinguished by the eye with dense hairs; arista thickened on less than basal 1/2; postpronotum with 3 strong basal setae in a triangle and 1 – 2 weak inner setae; lateral scutellar setae 0.9 – 1.1 times as long as subapical setae; katepimeron bare or with at most 3 – 4 hairs on anterior half. And it is similar to *P. villica*, but

distinguished from the latter by its facial ridge with setae on lower 1/5 – 1/4; palpi reddish yellow; 3 *dc* on postsutural scutum; 3 kepisternal setae; 4th section of vein C of wing 1.4 – 3.0 times as long as that of 6th section; mid tibia with 2 – 3 *ad*; abdominal terga 3 and 4 each with strong median discal setae; tergum 3 with 4 (– 6) median marginal setae.

Specimens examined. China, Liaotudingzi, Huanren, Liaoning, 2 ♀ ♀, 10 July 2006, GE Zhen-Ping, 1 ♀, 1 – 2 June 2009, FU Chao (SNU).

Distribution. China (Liaoning). Palaearctic, Europe (E. Europe), Russia (W. Russia).

***Phebellia villica* (Zetterstedt, 1838) New record to China**

Tachina villica Zetterstedt, 1838: 644.

Phebellia villica: Mesnil, 1975: 1394 (redescription); Herting, 1984: 42 (catalogue); Herting & Dely-Draskovits, 1993: 187 (catalogue); Tschorsnig & Herting, 1994: 51 (key); Richter, 2004: 240 (key).

Diagnosis. This species is distinguished from *P. triseta* in having the hairy parafacial below frontal setae; facial ridge with setae on lower 1/3 – 1/2; 1st flagellomere 2 – 3 times as long as pedicel; 4 *dc* on postsutural scutum; 3 kepisternal setae; mid tibia with 1 *ad*; hind tibia with a row of regular *ad*, middle one long; abdominal terga 3 and 4 without discal setae; tergum 3 with 2 weak median marginal setae.

Specimens examined. China, Liaotudingzi, Huanren, Liaoning, 1 ♀, 10 July 2006, GE Zhen-Ping. 1 ♂, 27 Aug. 2009, ZHANG Chun-Tian (SNU).

Distribution. China (Liaoning); Japan (Hokkaido). Europe (W. Europe, E. Europe), Russia (W. Russia, W Siberia).

***Phryno katoi* Mesnil, 1963 New record to China**

Phryno katoi Mesnil, 1963: 11. Mesnil, 1975: 1393 (redescription); Herting, 1984: 69 (catalogue); Herting & Dely-Draskovits, 1993: 235 (catalogue); Richter, 2004: 259 (key).

Diagnosis. This species is in *Phryno* by the eye with dense hairs; 3 basal setae on postpronotum in a more or less straight line; 3 + 4 *dc* apical setae, if present, then parallel; section of M between crossveins r-m and dm-cu distinctly longer than section between dm-cu and bend of M; legs entirely or predominantly yellow; abdominal terga 3 and 4 without discal setae. And it is similar to *P. vetula*, but is distinguished from the latter by parafacial narrower than antennal width in lateral view, basal half of scutellum and basal femora black, length of vein M from dm-cu crossvein to bend 2.0 – 2.5 times as long as the distance between the bend and wing margin along vein M.

Specimens examined. China, Liaotudingzi, Huanren, Liaoning, 4 ♂ ♂, 2 ♀ ♀, 30 – 31 May 2006, ZHANG Chun-Tian leg. 2 ♂ ♂, 1 ♀, 1 – 2 June 2009, ZHANG Chun-Tian, ZHAO Zhe (SNU).

Distribution. China (Liaoning); Japan (Hokkaido, Honshu, Kyushu), Russia (S. Far East).

***Cylindromyia* (*Malayocyptera*) *agnieszkae* Kolomiets, 1977 New record to China**

Cylindromyia agnieszkae Kolomiets, 1977: 53. Herting, 1983: 49 (redescription); Herting, 1984: 181 (catalogue); Herting & Dely-Draskovits, 1993: 431 (catalogue); Sun & Marshall, 1995: 192 (key); Ziegler & Shima, 1996: 441; Richter, 2004: 396 (key).

Diagnosis. This species is in *Cylindromyca* by the palpi strongly reduced; prementum at least 4 times as long as wide; postmetacoxal area sclerotized; wing cell r_{4+5} with a petiole at least as long as 1/6 section of M beyond bend; preapical *ad* on fore tibia distinctly longer than preapial *d*; abdominal sterna entirely or predominantly concealed; terminalia of both sexes prominent, well visible. And it is similar to *C. flavitibia*, but is distinguished from the latter in having strong hind *ia*, tibiae black, abdomen at least partly reddish yellow, postgonite as long as the width of hypandrium, sternum 5 with a shallow V-shaped median apical notch.

Specimens examined. China, Liaotudingzi, Huanren, Liaoning, 1 ♀, 16 Sep. 2006, LIU Jia-Yu. 6 ♂ ♂, 25 Aug. 2009, ZHANG Chun-Tian, ZHAO Zhe (SNU).

Distribution. China (Liaoning); N. Korea, Russia (Far East).

***Eliozeta* Rondani, 1856 New record to China**

Eliozeta Rondani, 1856: 82. Type-species: *Tachina pellucens* Fallén, 1820.

Chryseria Robineau-Desvoidy, 1863: 288.

Phanigaster Lioy, 1864: 61.

Heliozeta Bezzi *et* Stein, 1907: 572.

Generic diagnosis. Eye and parafacial bare; frons of female with dense hairs outside frontal row; antenna, scutellum and legs black; scutum with 2 pairs of presutural *dc* and 1 postsutural *ia* seta; scutellum with only two pairs of marginal setae; 2nd costal section of wing hairy ventrally; wing cell r_{4+5} without a petiole; mid tibia with 2 *ad*; abdominal syntergum 1 + 2 medially not excave to hind margin.

Distribution. China (Liaoning); Russia (South Europe Part, E. Siberia, W. Siberia, Far East), Transcaucasia, Austria, France, Germany, Hungary, Italy, Sweden, Turkey.

***Eliozeta pellucens* (Fallén, 1820) New record to China**

Tachina pellucens Fallén, 1820: 22.

Eliozeta pellucens: Herting & Dely-Draskovits, 1993: 401 (catalogue); Tschorsnig & Herting, 1994: 85 (key); Ziegler & Shima, 1996: 434; Richter, 2004: 377 (key).

Heliozeta pellucens: Herting, 1984: 163 (catalogue, unjustied emendation).

Diagnosis. It is similar to *E. helluo*, but is distinguished from the latter in the base of antennae almost connected, not separated, 1st flagellomere 2.1 – 2.5 times as long as pedicel, arista thickened on basal 2/3.

Specimens examined. China, Liaotudingzi, Huanren, Liaoning, 2 ♂♂, 26 – 27 Aug. 2009, ZHANG Chun-Tian, ZHAO Zhe (SNU).

Distribution. China (Liaoning); Russia (Far East), Transcaucasia, Germany, Sweden.

Panzeria laevigata (Meigen, 1838) New record to China

Nemoraea laevigata Meigen, 1838: 222.

Panzeria laevigata: Richter, 2004: 296 (key).

Ernestica laevigata: Mesnil, 1975: 1040 (redescription); Herting, 1984: 102 (catalogue); Herting & Dely-Draskovits, 1993: 294 (catalogue); Tschorsnig & Herting, 1994: 67 (Key).

Panzeria minor Nielsen, 1917: 23.

Panzeria nielseni Villeneuve, 1921: 118. Zimin, 1960: 729.

Ernestia minor Stein, 1924: 51.

Diagnosis. Richter (2004) and O'Hara, Shima & Zhang (2009) treated *Ernestica* as a junior synonym of *Panzeria*. This species is in *Panzeria* by the vertx of male 0.15 – 0.50 of eye width; pedicel of female yellow; 2nd aristomere 5 times at most as long as wide; inner vertical seta of male hair-like; preapical *pv* on hind tibia nearly as long as preapical *av*. And it is similar to *P. rudis*, but is distinguished from the latter by the vertx 0.34 – 0.51 of eye width in male, 1st flagellomere black, scutellum without crossed apical setae, fore claw of male 1.0 – 1.2 times as long as 5th tarsomerre of fore leg, 4th tarsomere of fore leg as long as wide in female.

Specimens examined. China, Liaotudingzi, Huanren, Liaoning, 3 ♂♂, 3 ♀♀, 30 – 31 May 2006, ZHANG Chun-Tian, GE Zhen-Ping leg. 9 ♂♂, 1 – 2 June 2009, ZHANG Chun-Tian, FU Chao, ZHAO Zhe leg (SNU).

Distribution. China (Liaoning); Japan (Hokkaido), Mongolia, Russia (S. Siberia, S. Far East), Britain, Scandinavia.

Dicarca Richter, 1993 New record to China

Dicarca Richter, 1993: 429. Type-species: *Dicarca fluviatilis* Richter, 1993.

Diagnosis. This genus is similar the to *Kambaitimyia* Mesnil, but differs from the latter in eye with dense hairs and lacking upper frontal setae, ocellar setae developed, parafacial narrower, and 1 + 3 *ac*.

Dicarca fluviatilis Richter, 1993 New record to China

Dicarca fluviatilis Richter, 1993: 433. Richter, 2004: 380 (key).

Diagnosis. This is the only species in *Dicarca* of the tribe Ptilopsinini, parafacial with a few hairs below lowest frontal seta; arista bare; prosternum bare; postmetacoxal area membraneous; scutellum with only two pairs of marginal setae, apical setae strongly crossed; lower calypter small, rounded, divergent from scutellum; abdominal terga with marginal setae; syntergum 1 + 2 medially not excave to hind margin.

Specimens examined. China, Liaotudingzi, Huanren, Liaoning, 3 ♂♂, 1 ♀, 15 Aug. 2006, ZHANG Chun-Tian, LIU Jia-Yu.

Distribution. China (Liaoning); Russia (S. Far East).

Linnaemya (*Ophina*) *takanoi* Mesnil, 1957 New record to China

Linnaemya (*Ophina*) *takanoi* Mesnil, 1957: 51. Mesnil, 1975: 1028 (redescription); Herting, 1984: 99 (catalogue); Shima, 1986: 21 (key); Herting & Dely-Draskovits, 1993: 288 (catalogue); Richter, 2004: 290 (key).

Diagnosis. This species is in *Linnaemya* by the palpus strong reduced; lateral scutellar setae almost always well-developed; basicosta reddish yellow; bend of M usually with a continuation at least as long as half of crossvein r-m; cerci abruptly curved ventrally at apex. And it is similar to *L. paralongipalpis* with scutellum and postalar callus brownish yellow, femora reddish yellow, wing r_{4+5} hairy only on basal node; but is distinguished from the latter by the vertex of male about 0.23 of head width; paplus subequal in length to pedicel.

Specimens examined. China, Liaotudingzi, Huanren, Liaoning, 4 ♂♂, 1 ♀, 1 – 2 June 2009, ZHANG Chun-Tian, FU Chao (SNU).

Distribution. China (Liaoning); Japan (Hokkaido).

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REFERENCES

Chao, C-M *et al.* 1998. Tachinidae. *In*: Xue, W-Q and Chao, C-M (eds.), Flies of China. Vol. 2. Liaoning Science and Technology Press, Shenyang. pp. 1 661 – 2 206 + pls. 1 – 30.

Chao, C-M and Chen, X-L 2007. A taxonomic study on the genus *Phebellia* Robineau-Desvoidy (Diptera: Tachinidae) from China. *Acta Entomologica Sinica*, 50: 933 – 940.

Crosskey, R. W. 1976. A taxonomic conspectus of the Tachinidae (Diptera) of the Oriental Region. *Bulletin of the British Museum (Natural History). Entomology*, 26 (Suppl.): 357 pp.

Herting, B. 1983. 64c. Phasiinae. *In*: Linder, E. (ed.), Die Fliegen der Palaearktischen Region, [In German.] 9 (Lieferung 329), 1 – 88.

Herting, B. 1984. Catalogue of Palearctic Tachinidae (Diptera). Stuttgarter Beiträge zur Naturkunde. Serie A (Biologie), 369, 1 – 228.

Herting, B. and Dely-Draskovits, Á. 1993. Family Tachinidae. *In*: Soós, Á and Papp, L. (eds.), Catalogue of Palaearctic Diptera. Vol. 13. Anthomyiidae - Tachinidae. Hungarian Natural History Museum, Budapest. pp. 118 – 458.

McAlpine, J. F. 1981. Morphology and terminology - adults. pp. 9 – 63. *In*: McAlpine, J. F., Peterson, B. V., Shewell, G. E., Teskey, H. J., Vockeroth, J. R. and Wood, D. M. (eds.), Manual of Nearctic Diptera. Vol. 1. Agriculture Canada Monograph. 27, vi + 674 pp.

Mesnil, L. P. 1944 – 1975. 64g. Larvaevorinae (Tachininae). Die Fliegen der Palaearktischen Region, [In German.] 10 (Lieferung 153), 1 – 1 435. + pls. I – II.

O'Hara, J. E., Shima, H. and Zhang, C-T 2009. Annotated catalogue of the Tachinidae (Insecta: Diptera) of China. *Zootaxa*, 2 190: 1 – 236.

Richter, V. A. 1993. New and little known tachinids (Diptera, Tachinidae) from Transbaikalia and Far East. [In Russian.] *Entomologicheskoe Obozrenie*, 72: 422 – 440.

Richter, V. A. 2004. Fam. Tachinidae - tachinids. *In*: Sidorenko, V. S. (ed.), Key to the Insects of Russian Far East. Vol. vi. Diptera and Siphonaptera. Part 3. [In Russian.] Dal'nauka, Vladivostok. pp. 148 – 398.

Shima, H. 1976. Discovery of the Australasian genus *Mycteromyiella* Mesnil (Diptera, Tachinidae) from Japan, with descriptions of new species from Japan, Malay and Borneo. *Kontyu*, 44: 311 – 322.

Shima, H. 1982a. A study of the genus *Phebellia* Robineau-Desvoidy from Japan (Diptera: Tachinidae). II. Redescriptions and species-grouping. *Bulletin of the Kitakyushu Museum of Natural History*, 4: 57 – 75.

Shima, H. 1982b. A systematic study of the genus *Linnaemya* Robineau-Desvoidy from Japan and the Oriental Region (Diptera: Tachinidae). *Sieboldia*, 5 (1): 1 – 96.

Sinclair, B. J. 2000. 1. 2. Morphology and terminology of Diptera male terminalia. *In*: Papp, L. and Darvas, B. (eds.), Contribution to a Manual of Palearctic Diptera (with special reference to flies of economic importance). Vol. 1. General and Applied Dipterology. Science Herald, Budapest. pp. 53 – 74.

Sun, X-K and Marshall, S. A. 1995. Two new species of *Cylindromyia* Meigen (Diptera, Tachinidae), with a review of the Eastern Palaearctic species of the genus. *Studia Dipterologica*, 2: 189 – 202.

Sun, X-K and Marshall, S. A. 2003. Systematics of *Phasia* Latreille (Diptera: Tachinidae). *Zootaxa*, 276: 1 – 320.

Tschorsnig, H. P. and Herting, B. 1994. Die Raupenfliegen (Diptera: Tachinidae) Mitteleuropas: Bestimmungstabellen und Angaben zur Verbreitung und Ökologie der einzelnen Arten. [In German.] *Stuttgarter Beiträge zur Naturkunde*, Serie A (Biologie), 506: 1 – 170.

Tschorsnig, H. P. and Richter, V. A. 1998. Family Tachinidae. *In*: Papp, L. and Darvas, B. (eds.), Contributions to a Manual of Palaearctic Diptera (with special reference to flies of economic importance). Vol. 3. Higher Brachycera. Science Herald, Budapest. pp. 691 – 827.

Yao, Z-Y and Zhang, C-T 2009. A taxonomic study on the genus *Phorocera* from China (Diptera, Tachinidae). *Acta Zootaxonomica Sinica*, 34 (1): 62 – 68. [动物分类学报]

Ziegler, J. and Shima, H. 1996. Tachinid flies of the Ussuri area (Diptera: Tachinidae). *Beiträge zur Entomologie*, 46: 379 – 478.

辽宁老秃顶子自然保护区寄蝇科新种和新纪录（昆虫纲，双翅目）

张春田 赵 喆 王 强

沈阳师范大学，辽宁省生物进化和生物多样性重点实验室 沈阳 110034，E-mail：chuntianzhang@yahoo.cn

摘 要 系统地整理、分类和鉴定了辽宁老秃顶子自然保护区采集到的1 500余号寄蝇科标本，其中发现并记述了3新种：祝氏喙寄蝇 *Mycteromyiella zhui*，狭额毛瓣寄蝇 *Nemoraea angustifrons*，桓仁突颜寄蝇 *Phasia huanrenensis*；并报告3中国新纪录属（*Mycteromyiella*，寻寄蝇属 *Eliozeta*、蛛寄蝇属 *Dicarca*），8个中国新纪录种（三鬃菲寄蝇 *Phebellia triseta*、毛菲寄蝇 *P. villica*、加藤芙蕊寄蝇 *Phryno katoi*、阿格筒腹寄蝇 *Cylindromyia agnieszkae*、明寻寄蝇 *Eliozeta pellucens*、高野短须寄蝇 *Linnaemya* (*Ophina*) *takanoi*、敏阳寄蝇 *Panzeria laevigata*、河蛛寄蝇 *Dicarca fluviatilis*）。模式标本和其它标本均保存在沈阳师范大学昆虫标本馆。

祝氏喙寄蝇，新种 *Mycteromyiella zhui* sp. nov.（图1～7）

本种外形近似于分布日本九州的缘喙寄蝇 *M. marginalis* Shima，但区别于后者的主要特征为：额较窄，后面观肛尾叶较长，端部窄而尖，侧尾叶端部钝圆，明显宽于前种。

正模♂，辽宁省桓仁县老秃顶子国家级自然保护区，2009-06-24～25，张春田采。副模15♂♂，采集地点和时间同正模，张春田和赵哲采。

词源：新种名以辽宁省老秃顶子国家级自然保护区管理局祝业平科长姓氏命名，纪念他30多年来为辽宁省生物多样性保护事业所做的突出贡献。

狭额毛瓣寄蝇，新种 *Nemoraea angustifrons* sp. nov.（图8～14）

本种外形近似于高野毛瓣寄蝇 *N. takanoi* (Baranov)，但其别于后者的主要特征是体较小，单眼鬃细长且明显，雌、雄腹部第3背板均具4根中缘鬃和2～4对不规则的心鬃，雌

性足均红黄色。

正模♂，辽宁省桓仁县老秃顶子国家级自然保护区，2006-07-11，杨正卿采。副模：1♂，采集地点同正模，2006-06-01，冯立勇采；2♀♀，2009-06-25，赵哲和王强采。

词源：新种名字来源于其外形特点具较窄的“*angust*”额“*frons*”。

桓仁突颜寄蝇，新种 *Phasia huanrenensis* sp. nov.（图 15～21）

本种外形近似于须突颜寄蝇群 *P. barbifrons*-group 中的罗氏突颜寄蝇 *P. rohdendorfi*（Draber-Mońko），但区别于后者的主要特征是颊高较短，第 1 触角节较长，颜脊仅在下半部具鬃，下颚须端部和基部暗棕色，中部红黄色，前足胫节无前鬃，后胫具 4～5 根前背鬃，侧尾叶侧面观端部膨大。

正模♂，辽宁省桓仁县老秃顶子国家级自然保护区，2006-05-30，冯立勇采。副模：4♂♂，采集地点同正模，1994-06-09，魏德采；37♂♂，5♀♀，2006-05-31 和 2006-06-01，张春田、刘家宇等采，6♂♂，1♀，2009-06-01，张春田、付超采。

词源：新种名字源于标本采集地点辽宁省桓仁县。

关键词　双翅目，寄蝇科，新种，新纪录，中国.
中图分类号　Q969.542.6